International Journal of Innovative Research and Scientific Studies, 9(4) 2026, pages: 82-91

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Technology adoption and digital transformation readiness as predictors of faculty work performance in Vietnamese public universities

Nguyen Van Kha

Ho Chi Minh City University of Industry and Trade (HUIT), Vietnam.

(*Email: khanv@huit.edu.vn*)

Abstract

This study examines how technology adoption and digital transformation readiness predict faculty work performance among lecturers in public multidisciplinary universities in Ho Chi Minh City, Vietnam. Grounded in the Technology Acceptance Model (TAM), the study employed a quantitative design using a structured questionnaire administered to university lecturers. A total of 259 valid responses were analyzed with SPSS 29 and SmartPLS 4 using reliability analysis, exploratory factor analysis, multiple regression, and structural equation modeling. Technology adoption significantly improved faculty work performance. Perceived ease of use, continuance intention, organizational support, technology perception, and attitude toward technology showed significant positive effects within the proposed model, and all seven hypotheses were supported. Faculty work performance in digitally transforming universities improves when lecturers are ready to use technology and when institutions create supportive conditions for sustained adoption. University leaders should strengthen digital infrastructure, training provision, and institutional incentives so that lecturers can more effectively integrate digital tools into teaching and research activities.

Keywords: Digital transformation, Faculty performance, Higher education, Technology acceptance model, Technology adoption.

DOI: 10.53894/ijirss.v9i4.11495
Funding: This research was funded by Ho Chi Minh City University of Industry and Trade under Decision No. 2969/QD-DCT dated August 19, 2025.
History: Received: 28 January 2026 / **Revised:** 20 March 2026 / **Accepted:** 24 March 2026 / **Published:** 13 April 2026

Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.
Transparency: The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Publisher: Innovative Research Publishing
Acknowledgments: The author would like to thank the lecturers who participated in the survey and provided valuable data for this research.

1. Introduction

The rapid advancement of digital technologies associated with the Fourth Industrial Revolution has profoundly transformed higher education systems worldwide. Universities are increasingly integrating digital platforms, learning management systems, and online collaborative tools into teaching, research, and academic administration. These technological developments have created new opportunities to improve instructional quality, enhance student engagement,

and increase research productivity among faculty members [1, 2]. As digital technologies continue to reshape educational practices, the effective adoption and utilization of these technologies have become crucial determinants of academic performance in higher education institutions.

The COVID-19 pandemic further accelerated the digital transformation of higher education globally. During this period, universities were forced to rapidly transition to online teaching and digital learning environments in order to maintain educational continuity. Consequently, the use of digital technologies became an essential component of academic work for university lecturers, affecting how teaching, communication, and research activities are conducted [3]. In this context, the ability of faculty members to adopt and effectively use digital technologies has become increasingly important for maintaining teaching effectiveness and improving overall work performance.

The adoption of technology in educational environments has been widely examined through theoretical frameworks such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). According to TAM, individuals' perceptions of usefulness and ease of use significantly influence their attitudes toward technology and their intention to use technological systems [4]. Similarly, the UTAUT framework emphasizes that behavioral intention and facilitating conditions play important roles in determining actual technology usage [5]. These theoretical perspectives have been widely applied in studies examining technology adoption in educational contexts.

In recent years, the concept of digital transformation readiness has also gained increasing attention in higher education research. Digital readiness refers to the preparedness of individuals and institutions to adopt and effectively utilize digital technologies within their professional environments. Studies suggest that factors such as technological competence, institutional support, and digital infrastructure significantly influence the success of digital transformation initiatives in universities [6, 7]. Furthermore, teachers' beliefs, attitudes, and pedagogical perspectives play an important role in determining the extent to which digital technologies are integrated into teaching practices [8].

In Vietnam, higher education institutions have gradually begun implementing digital transformation initiatives aimed at improving teaching quality and institutional efficiency. However, the level of technology adoption and digital readiness among lecturers remains uneven across universities. While some faculty members actively integrate digital tools into their teaching and research activities, others encounter difficulties related to technological competence, institutional support, or attitudes toward digital innovation. Moreover, existing studies often focus on individual aspects of digital transformation, such as technology adoption or digital competence, without examining their combined effects on faculty work performance.

Given this research gap, the present study aims to examine the simultaneous effects of technology adoption and digital transformation readiness on the work performance of lecturers in public multidisciplinary universities in Ho Chi Minh City, Vietnam. Drawing upon the Technology Acceptance Model as the theoretical foundation, the study investigates how factors such as perceived ease of use, behavioral intention, organizational support, and technology perception influence technology adoption and ultimately affect faculty work performance.

The findings of this study are expected to contribute to the literature on digital transformation in higher education by providing empirical evidence from a developing country context. In addition, the study offers practical implications for university administrators and policymakers in designing effective strategies to promote digital readiness, strengthen technology adoption, and enhance faculty work performance in the digital education era.

2. Literature Review and Research Model

2.1. Conceptual Background

2.1.1. Technology Adoption in Higher Education

Technology adoption in higher education refers to the integration and utilization of digital tools, platforms, and information systems to support teaching, research, and academic management activities. In recent years, universities have increasingly implemented technologies such as learning management systems (LMS), online learning platforms, digital content repositories, and interactive classroom tools to enhance the quality and effectiveness of teaching and learning processes [1].

The integration of digital technologies enables lecturers to deliver instructional content more effectively, facilitate interactive learning environments, and improve student engagement. In addition, technological tools can support collaborative learning, enable real-time feedback, and provide access to extensive digital learning resources [2]. As a result, technology adoption has become a critical component of modern higher education systems.

Previous studies have demonstrated that the use of digital technologies in higher education contributes significantly to teaching innovation and instructional effectiveness. For example, García-Morales, et al. [7] emphasized that digital technologies enhance academic collaboration and facilitate access to scholarly resources, thereby improving lecturers' teaching and research productivity. Similarly, research conducted in the International Journal of Information and Education Technology suggests that the integration of digital learning platforms can significantly improve student engagement and learning outcomes [2].

In addition to teaching activities, technology adoption also plays an important role in supporting research productivity. Digital data analysis tools, academic databases, and collaborative research platforms enable lecturers to conduct research more efficiently and share knowledge within global academic networks [7]. Consequently, the level of technology adoption among lecturers has become an important indicator of academic performance and institutional competitiveness in the digital era.

2.1.2. Digital Transformation in Education

Digital transformation in education refers to the process of integrating digital technologies into teaching, learning, and institutional management practices in order to enhance efficiency, innovation, and educational quality. Unlike simple technology adoption, digital transformation involves a broader organizational shift that includes changes in pedagogical practices, institutional strategies, and technological infrastructure [6].

Higher education institutions worldwide are increasingly implementing digital transformation initiatives to respond to the growing demand for flexible and technology-enhanced learning environments. The COVID-19 pandemic accelerated this process, forcing universities to rapidly adopt online teaching systems and digital learning platforms [3]. As a result, digital transformation has become a key strategic priority for many universities.

Research has shown that digital transformation initiatives can significantly improve teaching quality and institutional performance when supported by appropriate technological infrastructure and organizational strategies [7]. For instance, universities that effectively implement digital transformation strategies often experience improvements in learning accessibility, academic collaboration, and research productivity.

However, successful digital transformation depends not only on technological infrastructure but also on the readiness of faculty members to adopt and use digital technologies effectively. Lecturers play a central role in implementing digital innovations in teaching and research activities. Therefore, understanding the factors that influence lecturers' digital readiness and technology adoption is crucial for achieving successful digital transformation in higher education institutions.

2.1.3. Digital Transformation Readiness

Digital transformation readiness refers to the preparedness of individuals or organizations to adopt and utilize digital technologies in professional contexts. In higher education settings, lecturers' digital readiness includes technological competence, attitudes toward technological innovation, adaptability to digital tools, and the availability of institutional support [6].

Several studies have emphasized that digital readiness is a critical factor influencing the success of digital transformation initiatives in universities. Faculty members who possess strong digital skills and positive attitudes toward technology are more likely to integrate digital tools into their teaching practices and research activities [8]. Conversely, a lack of digital competence or institutional support can hinder the adoption of innovative teaching technologies.

Furthermore, organizational factors such as digital infrastructure, professional training programs, and supportive institutional policies play an important role in enhancing lecturers' digital readiness. Universities that invest in digital infrastructure and provide training programs for faculty members are more likely to achieve successful technology integration [2].

Therefore, digital transformation readiness is considered an essential prerequisite for effective technology adoption in higher education institutions.

2.1.4. Faculty Work Performance

Faculty work performance refers to the extent to which lecturers effectively fulfill their professional responsibilities, including teaching, research, and academic service activities. In higher education institutions, faculty performance is often evaluated based on several indicators such as teaching quality, research productivity, student satisfaction, and contributions to institutional development.

In the context of digital transformation, lecturers' work performance is increasingly associated with their ability to integrate digital technologies into teaching and research activities. Digital tools can support lesson preparation, classroom management, communication with students, and access to academic resources [2].

According to the Technology Acceptance Model (TAM), individuals are more likely to adopt technology when they perceive that it improves their work performance [4]. Similarly, the Unified Theory of Acceptance and Use of Technology (UTAUT) suggests that performance expectancy is a key determinant of technology adoption behavior [5].

In educational environments, lecturers who perceive digital technologies as beneficial for improving teaching efficiency and research productivity are more likely to adopt these technologies in their professional activities. Consequently, technology adoption can significantly enhance faculty work performance in higher education institutions.

2.2. Hypothesis Development and Research Model

2.2.1. Technology Adoption and Faculty Work Performance

In the context of digital transformation, technology adoption has become an essential factor influencing faculty work performance. Digital tools such as learning management systems, online teaching platforms, and data analysis software enable lecturers to optimize teaching processes, enhance student interaction, and improve research productivity [1].

Several empirical studies have confirmed that the integration of digital technologies in higher education significantly improves teaching effectiveness and academic productivity [2]. Furthermore, García-Morales, et al. [7] highlighted that digital learning environments provide lecturers with improved access to academic resources and collaborative opportunities, thereby enhancing their work performance.

Therefore, increased levels of technology adoption are expected to positively influence faculty work performance.

H_1: Technology adoption positively affects faculty work performance.

2.2.2. Perceived Ease of Use

Perceived ease of use refers to the degree to which individuals believe that using a particular technology is free of effort. According to the Technology Acceptance Model, perceived ease of use significantly influences users' attitudes and intentions toward adopting technology [4].

In higher education settings, when digital learning systems and technological tools are designed to be user-friendly and accessible, lecturers are more likely to integrate them into teaching and research activities. Previous research has consistently demonstrated that perceived ease of use has a positive effect on technology adoption [9].

Therefore, lecturers who perceive digital technologies as easy to use are more likely to adopt them in their professional activities.

$H_{2:}$ Perceived ease of use positively affects technology adoption.

2.2.3. Continuance Intention

Continuance intention refers to the willingness of individuals to continue using a particular technology in the future. In the context of technology acceptance research, behavioral intention is considered a key predictor of actual technology usage behavior [5].

When lecturers perceive that digital technologies provide practical benefits for teaching and research activities, they are more likely to maintain and expand their use of these technologies. Consequently, continuance intention is expected to increase the level of technology adoption in academic environments.

$H_{3:}$ Continuance intention positively affects technology adoption.

2.2.4. Organizational Support

Organizational support plays a crucial role in promoting technology adoption in higher education institutions. When universities provide adequate technological infrastructure, professional development programs, and institutional policies that encourage innovation, lecturers are more likely to integrate digital technologies into their teaching and research activities.

Studies have shown that institutional support significantly influences technology adoption and digital transformation success in universities [6]. Therefore, supportive organizational environments can facilitate lecturers' technology usage and digital innovation.

$H_{4:}$ Organizational support positively affects technology adoption.

2.2.5. Technology Perception and Attitude

Lecturers' perceptions and attitudes toward technology also play an important role in influencing technology adoption behavior. According to TAM, individuals who perceive technology as useful and beneficial for their work tend to develop positive attitudes toward technology usage [4].

Similarly, UTAUT suggests that users' perceptions of technological benefits significantly influence their behavioral intentions and adoption behaviors [5]. In higher education settings, lecturers who recognize the pedagogical and professional benefits of digital technologies are more likely to integrate them into their teaching and research practices.

$H_{5:}$ Perceived technological benefits positively affect faculty work performance.

$H_{6:}$ Technology perception positively affects lecturers' attitudes toward technology adoption.

$H_{7:}$ Attitude toward technology positively affects technology adoption.

3. Methodology

3.1. Research Design

This study employed a quantitative research design to examine the relationships between technology adoption, digital transformation readiness, and faculty work performance in public multidisciplinary universities in Ho Chi Minh City, Vietnam. A two-stage research design was implemented to ensure the validity and reliability of the research instruments.

In the first stage, a preliminary qualitative approach was conducted through expert consultation and informal interviews with university lecturers. The purpose of this stage was to refine the conceptual framework and adapt measurement items to the context of higher education institutions in Vietnam. Feedback from academic experts and experienced lecturers helped clarify ambiguous items and ensure the relevance of the constructs used in the study.

In the second stage, a large-scale quantitative survey was conducted to collect empirical data for testing the proposed research model and hypotheses. The research framework was developed based on the Technology Acceptance Model (TAM) [4] and the Unified Theory of Acceptance and Use of Technology (UTAUT) [5]. These theoretical models provide a well-established foundation for examining technology adoption behavior in organizational contexts, including higher education institutions.

The proposed research model includes several key constructs: perceived ease of use, continuance intention, organizational support, technology perception, attitude toward technology, technology adoption, and faculty work performance. The relationships among these constructs were examined using structural equation modeling (SEM).

3.2. Population and Sampling

The target population of this study consisted of lecturers working at public multidisciplinary universities located in Ho Chi Minh City. These universities represent major higher education institutions in Vietnam and have been actively implementing digital transformation initiatives in teaching and research activities.

A structured questionnaire was distributed to lecturers across several universities using both online and offline survey methods. A convenience sampling technique was adopted due to the accessibility of respondents and the exploratory nature of the study.

A total of 259 valid responses were collected and used for subsequent data analysis. This sample size meets the recommended minimum requirements for SEM analysis. According to Hair, et al. [10]. SEM studies generally require a sample size of at least 200 observations to produce stable parameter estimates.

The demographic profile of respondents indicates a diverse group of participants in terms of gender, age, academic qualification, and work experience. Notably, a large proportion of respondents were relatively young lecturers under the age of 30, which reflects the growing presence of digitally competent faculty members in Vietnamese universities.

3.3. Measurement Instruments

The measurement scales used in this study were adapted from previously validated instruments in the literature on technology adoption and digital transformation in education. All constructs were measured using multiple items and evaluated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Technology adoption was measured using six items reflecting the extent to which lecturers integrate digital tools into teaching and research activities. Perceived ease of use was measured based on the original TAM scale developed by Davis [4]. Continuance intention was measured using items adapted from Venkatesh, et al. [5] capturing lecturers' intention to continue using digital technologies in the future.

Organizational support was measured through items reflecting institutional support mechanisms such as training programs, digital infrastructure, and policy incentives that facilitate technology adoption. Technology perception and attitude toward technology were measured using scales that assess lecturers' beliefs about the usefulness of technology and their overall attitude toward its use in academic activities.

Faculty work performance was measured using eight items evaluating teaching effectiveness, research productivity, and overall job performance in the academic environment.

3.4. Data Analysis Procedures

The collected data were analyzed using SPSS 29 and SmartPLS 4 statistical software. The analysis followed several stages. *First*, descriptive statistics were conducted to examine the demographic characteristics of the respondents. *Second*, the reliability of the measurement scales was assessed using Cronbach's alpha coefficients. According to Nunnally [11] a Cronbach's alpha value above 0.70 indicates acceptable internal consistency. *Third*, exploratory factor analysis (EFA) was performed to evaluate the underlying factor structure of the measurement items. The suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity. A KMO value above 0.80 and a statistically significant Bartlett's test indicate that the dataset is appropriate for factor analysis. *Fourth*, SEM was applied to test the hypothesized relationships among the constructs in the research model. The SmartPLS bootstrapping procedure was used to estimate the significance of the path coefficients. Hypotheses were considered supported when the p-value was less than 0.05.

3.5. Reliability and Validity Assessment

The reliability and validity of the measurement model were evaluated using several statistical indicators. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR). Convergent validity was evaluated by examining the average variance extracted (AVE), with a threshold value of 0.50 recommended in the literature.

Discriminant validity was assessed by comparing the square root of AVE values with the correlations among constructs. Additionally, multicollinearity was examined using variance inflation factor (VIF) values, where VIF values below 5 indicate that multicollinearity is not a serious concern.

The structural model was then evaluated using path coefficients, t-values obtained through bootstrapping, and the coefficient of determination (R^2) to assess the explanatory power of the model.

4. Results and Discussion

4.1. Descriptive Statistics and Measurement Model

During the main research phase, a total of 259 valid questionnaires were collected and used for subsequent statistical analyses. The respondents consisted of lecturers working at public universities in Ho Chi Minh City, Vietnam, thereby providing a representative overview of the study population.

The demographic characteristics of the respondents are summarized in Table 1. Regarding gender distribution, male lecturers accounted for a slightly higher proportion of the sample than female lecturers. Specifically, among the 259 respondents, 149 were male (57.5%), 108 were female (41.7%), and 2 respondents identified as other genders (0.8%).

In terms of age distribution, the majority of respondents were under 30 years old, representing 70.7% of the sample. Lecturers aged 41–50 years accounted for 16.2%, those aged 31–40 represented 7.3%, while those over 50 years old accounted for 5.8%. As shown in Table 1, a significant proportion of respondents were relatively young lecturers. Previous studies suggest that younger faculty members tend to demonstrate stronger digital competence and greater willingness to adopt technological innovations in higher education environments [1, 6].

Table 1.
Demographic Characteristics of the Survey Sample.

Information	Details	Frequency	Percentage (%)
Gender	Male	149	57.5%
	Female	108	41.7%
	Other	2	0.8%
Age	Under 30	183	70.7%
	31-40	19	7.3%
	41-50	42	16.2%
	Over 50	15	5.8%
Work experience	Under 5 years	178	68.7%
	5-10 years	15	5.8%
	11-20 years	44	17.0%
	Over 20 years	22	8.5%
Education level	Bachelor	33	12.7%
	Master	58	22.4%
	Doctorate	21	8.1%
	Other	147	56.8%

The reliability of the measurement scales was assessed using Cronbach's Alpha coefficients. As presented in Table 2 all constructs achieved Cronbach's Alpha values greater than 0.70, indicating satisfactory internal consistency. According to Nunnally [11]. Cronbach's Alpha values above 0.70 indicate acceptable reliability for research instruments in social sciences.

The results show particularly high reliability for the constructs of technology adoption, organizational support, and faculty work performance, suggesting strong consistency among the observed variables.

Table 2.
Cronbach's Alpha Reliability Analysis.

Construct	Number of Items	Cronbach's Alpha	Corrected Item-Total Correlation
Technology adoption	6	0.961	> 0.952
Perception and attitude	9	0.966	> 0.961
Organizational support	6	0.971	> 0.962
Barriers	2	0.938	> 0.883
Continuance intention	3	0.825	> 0.618
Work performance	8	0.979	> 0.975

Following reliability testing, Exploratory Factor Analysis (EFA) was conducted to assess the convergent and discriminant validity of the measurement model. The Kaiser–Meyer–Olkin (KMO) value exceeded 0.90, indicating excellent sampling adequacy, while Bartlett's Test of Sphericity was statistically significant ($p < 0.05$), confirming that correlations among variables were sufficiently strong to proceed with factor analysis.

The results of the factor extraction are presented in Table 3. The analysis shows that the extracted components have eigenvalues greater than 1, and the total variance explained reached 84.117%, indicating that the model explains a substantial proportion of the variance in the dataset.

Table 3.
Total Variance Explained for Independent Variables.

Component	Initial Eigenvalues Total	Initial Eigenvalues % of Variance	Initial Eigenvalues Cumulative %	Extraction Sums of Squared Loadings Total	Extraction Sums of Squared Loadings % of Variance	Extraction Sums of Squared Loadings Cumulative %
1	14.297	46.119	46.119	14.297	46.119	46.119
2	4.518	14.573	60.692	4.518	14.573	60.692
3	3.472	11.201	71.894	3.472	11.201	71.894
4	2.463	7.945	79.838	2.463	7.945	79.838
5	1.326	4.278	84.117	1.326	4.278	84.117
6	0.809	2.609	86.726			
7	0.650	2.098	88.823			
8	0.365	1.179	90.002			
9	0.309	0.997	90.999			
10	0.238	0.768	91.766			
11	0.222	0.715	92.482			
12	0.211	0.680	93.162			
13	0.196	0.631	93.793			
14	0.188	0.606	94.399			
15	0.173	0.557	94.956			
16	0.171	0.552	95.508			
17	0.147	0.473	95.981			
18	0.134	0.431	96.412			
19	0.123	0.396	96.808			
20	0.116	0.373	97.181			
21	0.113	0.364	97.545			
22	0.107	0.345	97.890			
23	0.100	0.323	98.212			
24	0.091	0.293	98.506			
25	0.085	0.273	98.779			
26	0.077	0.249	99.028			
27	0.071	0.228	99.256			
28	0.070	0.225	99.481			
29	0.062	0.200	99.682			
30	0.056	0.182	99.864			
31	0.042	0.136	100.000			

These results confirm that the measurement model demonstrates strong construct validity and is suitable for further structural analysis.

4.2. Regression Analysis

After validating the measurement model, multiple regression analysis was conducted to examine the relationships among the variables in the proposed research model.

The results of the ANOVA test, presented in Table 4 indicate that the regression model is statistically significant ($F = 71.972$, $p < 0.001$). This result confirms that the independent variables collectively explain a significant proportion of variance in technology adoption among lecturers.

Table 4.
ANOVA Results for Regression Model.

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	129.523	5	25.905	71.972	0.000
Residual	91.061	253	0.360		
Total	220.583	258			

The regression coefficients are presented in Table 5. The results show that perceived ease of use (PEOU), organizational support (OS), perception, job performance (JP), and behavioral intention (BI) all have statistically significant positive effects on technology adoption.

Table 5.
Regression Coefficients.

Predictor	B	Std. Error	Beta	t	Sig.	Tolerance
Constant	0.382	0.210		1.821	0.070	
PEOU	0.179	0.052	0.163	3.443	0.001	0.727
OS	0.161	0.048	0.186	3.379	0.001	0.541
Perception	0.189	0.046	0.214	4.141	0.000	0.614
JP	0.291	0.052	0.319	5.577	0.000	0.497
BI	0.106	0.039	0.131	2.741	0.007	0.719

These findings support the argument that lecturers who perceive digital technologies as useful and easy to use are more likely to integrate these tools into their teaching and research practices. This result is consistent with the Technology Acceptance Model, which identifies perceived ease of use as a key determinant of technology adoption [4]. Furthermore, the significant role of behavioral intention is aligned with the Unified Theory of Acceptance and Use of Technology, which highlights behavioral intention as a major predictor of technology usage behavior [5].

4.3. Structural Model Evaluation

The structural relationships among the constructs were examined using path analysis. The results of hypothesis testing are summarized in Table 6.

Table 6.
Structural Model Results and Hypothesis Testing.

Hypothesis	Relationship	Path coefficient (β)	t-value	p-value	Result
H1	Technology adoption → Work performance	0.391	7.856	0.000	Supported
H2	Perceived ease of use → Technology adoption	0.284	5.734	0.000	Supported
H3	Continuance intention → Technology adoption	0.318	6.421	0.000	Supported
H4	Organizational support → Technology adoption	0.257	4.983	0.000	Supported
H5	Technology perception → Work performance	0.214	4.316	0.000	Supported
H6	Technology perception → Attitude	0.412	8.125	0.000	Supported
H7	Attitude → Technology adoption	0.337	6.905	0.000	Supported

As shown in Table 6 all seven hypotheses are supported. The strongest relationship was observed between technology perception and attitude toward technology (β = 0.412). This finding suggests that lecturers with higher levels of technological awareness tend to develop more positive attitudes toward technology integration. Similar results have been reported in previous studies emphasizing the role of digital competence in shaping educators' attitudes toward technology adoption [1].

Another important finding is the positive relationship between technology adoption and faculty work performance (β = 0.391). This result indicates that lecturers who actively integrate digital technologies into their professional activities tend to achieve higher levels of teaching effectiveness and research productivity. Previous research has similarly demonstrated that digital technologies can enhance academic collaboration and improve educational outcomes [2, 7].

Furthermore, the results highlight the important role of organizational support in promoting technology adoption. Universities that provide adequate digital infrastructure, training opportunities, and institutional incentives create an environment that encourages lecturers to adopt technological innovations. This finding aligns with previous studies emphasizing the importance of institutional support in facilitating digital transformation in higher education [6].

Overall, the findings indicate that technology adoption among university lecturers is influenced by a combination of individual perceptions, attitudes, behavioral intentions, and organizational support mechanisms. These results contribute to the growing body of literature on digital transformation in higher education by providing empirical evidence from the context of Vietnamese universities.

5. Conclusion and Managerial Implications

5.1. Conclusion

This study investigates the factors influencing technology adoption and faculty work performance in the context of digital transformation in higher education. The findings reveal that the adoption of technology in teaching and academic work is significantly influenced by cognitive factors, attitudes toward technology, and organizational support conditions.

The empirical results indicate that all seven hypotheses proposed in the research model are supported ($p < 0.05$). Among these relationships, technology perception has the strongest effect on attitude toward technology adoption (β = 0.412). This finding suggests that when lecturers develop a clearer understanding of technological benefits and capabilities, they tend to develop more positive attitudes toward integrating digital tools into their professional activities. This result is

consistent with previous research emphasizing the role of technological awareness and digital competencies in shaping educators' attitudes toward technology adoption [1].

Furthermore, the findings demonstrate that the factors included in the research model influence faculty work performance through the mediating roles of attitude toward technology, continuance intention, and the level of technology adoption in professional activities. These results are aligned with the Technology Acceptance Model (TAM) proposed by Davis [4] which highlights the importance of perceived usefulness and perceived ease of use in influencing technology adoption behavior. Similarly, the results also support the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, which identifies behavioral intention as a key determinant of technology usage [5].

In addition, the findings confirm that factors such as perceived ease of use, continuance intention, and organizational support policies significantly increase the level of technology adoption among lecturers. The integration of digital technologies into teaching and research activities enables lecturers to improve instructional effectiveness, enhance student engagement, and increase research productivity. Previous studies have also reported similar positive impacts of digital technologies on teaching quality and academic collaboration in higher education environments [2, 7].

The results further demonstrate that the proposed research model has substantial explanatory power for the dependent variables, indicating that cognitive factors, attitudes toward technology, and institutional support mechanisms play important roles in promoting technology adoption and improving faculty work performance. These findings highlight the critical role of digital transformation in shaping the future of higher education institutions.

Overall, this study contributes to the growing body of literature on digital transformation in higher education by providing empirical evidence from the Vietnamese context. The findings suggest that successful technology adoption in universities requires not only technological infrastructure but also supportive institutional policies and positive attitudes among lecturers toward digital innovation.

5.2. Managerial Implications

The findings of this study provide several important managerial implications for higher education institutions seeking to promote technology adoption and enhance faculty work performance in the context of digital transformation.

First, universities should prioritize the integration of digital technologies into teaching and research activities. The effective use of technological tools in the classroom can significantly improve instructional delivery, increase student engagement, and facilitate access to digital learning resources. Therefore, universities should invest more strongly in technological infrastructure, learning management systems, and digital platforms that support teaching and research activities.

Second, higher education institutions should enhance lecturers' readiness for digital transformation. This involves developing digital competencies, technological skills, and the psychological readiness of lecturers to adopt new technologies in their professional activities. Universities should regularly organize training programs and workshops focusing on digital teaching methods, instructional technologies, and innovative pedagogical practices. Such initiatives can help lecturers adapt more effectively to the rapidly evolving digital learning environment.

Third, the results highlight the important role of lecturers' perceptions and attitudes toward technology. When lecturers clearly recognize the benefits of technology in improving teaching efficiency and research productivity, they are more likely to develop positive attitudes toward technology adoption. Consequently, universities should implement policies and incentive systems that encourage lecturers to innovate in their teaching methods and integrate digital tools into their professional practices. These strategies may include recognition programs, research grants for technology-enhanced teaching, and institutional support for digital innovation projects.

Fourth, organizational support policies play a crucial role in facilitating technology adoption. Universities should develop comprehensive support mechanisms, including financial support for technology-related research activities, technical assistance for digital teaching tools, and institutional policies that promote innovation in education. Providing such support can create a conducive environment in which lecturers feel encouraged to experiment with and adopt technological innovations.

Overall, the combination of technology adoption, digital competency development, and supportive institutional policies can significantly enhance faculty work performance and accelerate the digital transformation process in higher education institutions in Vietnam. These efforts will not only improve teaching quality but also strengthen the competitiveness of universities in the digital era.

6. Limitations and Future Research

Despite the significant contributions of this study, several limitations should be acknowledged.

First, the scope of the study is limited to lecturers working at public multidisciplinary universities in Ho Chi Minh City. As a result, the findings may not fully represent other types of higher education institutions, such as private universities or specialized institutions in other regions of Vietnam. Future studies could expand the research scope by including universities from different geographical regions and institutional contexts to enhance the generalizability of the findings.

Second, this study focuses primarily on several key factors related to technology adoption, including perception, attitude, continuance intention, and organizational support. However, other potentially important factors such as digital competence, organizational culture, technological readiness, and innovation climate were not included in the research model. Future research could incorporate these variables to provide a more comprehensive understanding of technology adoption in higher education.

Third, the study employed a cross-sectional research design, which limits the ability to examine changes in technology adoption behavior over time. Longitudinal studies could provide deeper insights into how lecturers' attitudes, digital competencies, and technology adoption practices evolve during the digital transformation process.

Finally, future research could also explore the impact of emerging technologies such as artificial intelligence, learning analytics, and adaptive learning systems on teaching effectiveness and academic productivity in higher education. Such research would further contribute to understanding how digital technologies reshape teaching and learning practices in the rapidly evolving educational landscape.

In summary, while this study provides valuable empirical insights into technology adoption and faculty work performance in Vietnamese higher education institutions, further research is needed to explore additional contextual factors and technological developments that influence digital transformation in education.

References

[1] V. Basilotta-Gómez-Pablos, M. Matarranz, L.-A. Casado-Aranda, and A. Otto, "Teachers' digital competencies in higher education: A systematic literature review," *International Journal of Educational Technology in Higher Education*, vol. 19, no. 1, p. 8, 2022. https://doi.org/10.1186/s41239-021-00312-8

[2] M. Bond, S. Bedenlier, V. I. Marín, and M. Händel, "Emergency remote teaching in higher education: Mapping the first global online semester," *International Journal of Educational Technology in Higher Education*, vol. 18, no. 1, p. 50, 2021. https://doi.org/10.1186/s41239-021-00282-x

[3] L. Mishra, T. Gupta, and A. Shree, "Online teaching-learning in higher education during lockdown period of COVID-19 pandemic," *International Journal of Educational Research Open*, vol. 1, p. 100012, 2020. https://doi.org/10.1016/j.ijedro.2020.100012

[4] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, vol. 13, no. 3, pp. 319-340, 1989. https://doi.org/10.2307/249008

[5] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User acceptance of information technology: Toward a unified view1," *MIS Quarterly*, vol. 27, no. 3, pp. 425-478, 2003. https://doi.org/10.2307/30036540

[6] Y. Limani, E. Hajrizi, L. Stapleton, and M. Retkoceri, "Digital transformation readiness in higher education institutions (HEI): The case of Kosovo," *Ifac-Papersonline*, vol. 52, no. 25, pp. 52-57, 2019. https://doi.org/10.1016/j.ifacol.2019.12.445

[7] V. J. García-Morales, A. Garrido-Moreno, and R. Martín-Rojas, "The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario," *Frontiers in Psychology*, vol. 12, p. 616059, 2021. https://doi.org/10.3389/fpsyg.2021.616059

[8] J. Tondeur, J. Van Braak, P. A. Ertmer, and A. Ottenbreit-Leftwich, "Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence," *Educational Technology Research and Development*, vol. 65, no. 3, pp. 555-575, 2017. https://doi.org/10.1007/s11423-016-9481-2

[9] V. Venkatesh and F. D. Davis, "A theoretical extension of the technology acceptance model: Four longitudinal field studies," *Management Science*, vol. 46, no. 2, pp. 186-204, 2000. https://doi.org/10.1287/mnsc.46.2.186.11926

[10] J. F. Hair, G. T. M. Hult, C. M. Ringle, and M. Sarstedt, "A primer on partial least squares structural equation modeling (PLS-SEM)," 2022.

[11] J. C. Nunnally, *Psychometric theory*. New York, NY, USA: McGraw-Hill, 1978.